Virtual Design And Sustainment Environment (VDASE)

in support of

Simulation Based Acquisition

Presented by

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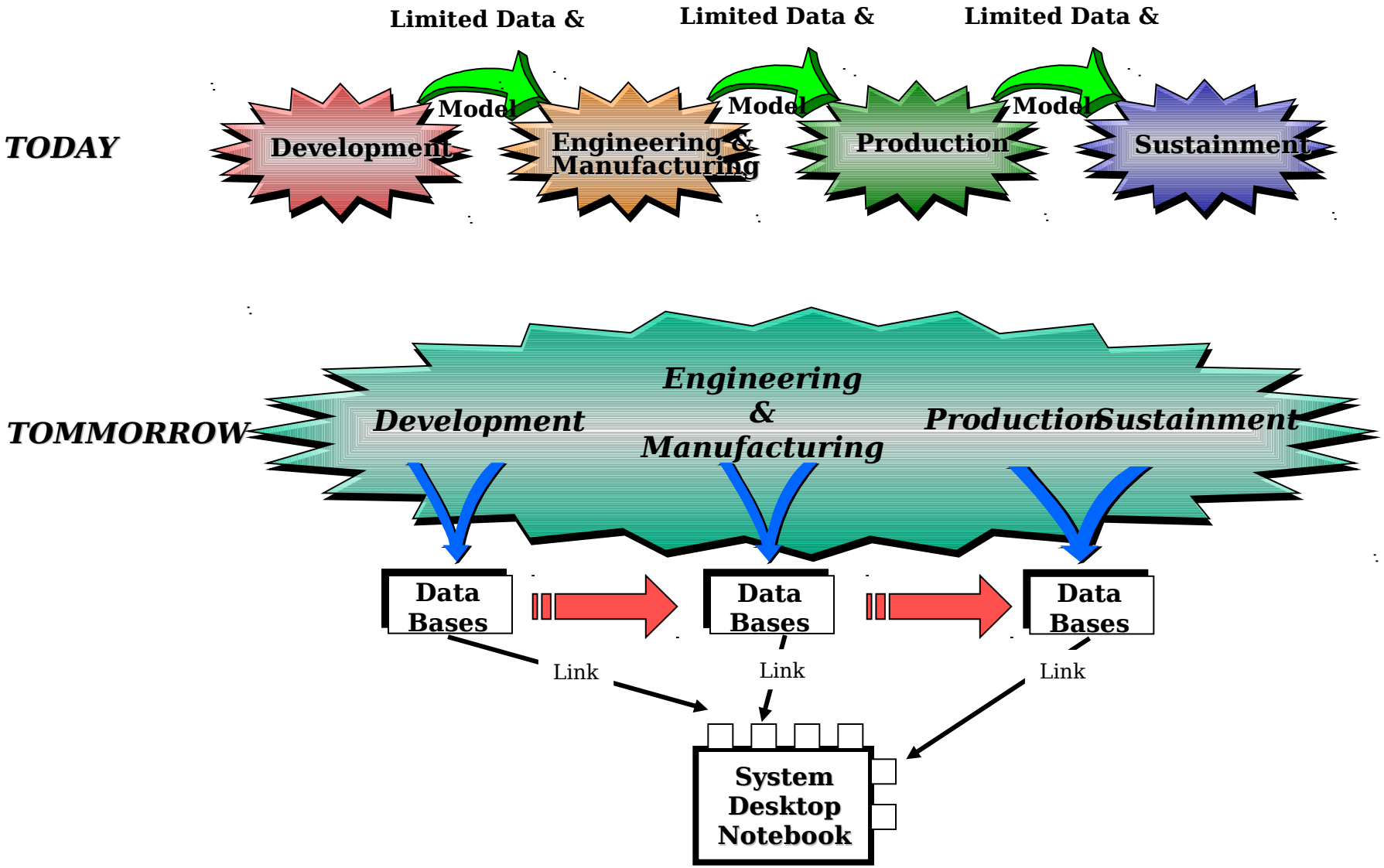
Utility Helicopter PMO

Briefing Objective

- **Describe US Army Utility Helicopter vision for A Virtual Design & Sustainment Environment**
- **Define the elements**
- **Show progress to date and plan for the future**
- **Describe challenges**
- **Answer questions or comments**

Utility Helicopter Objective: *Anything* you need to do your job, *anywhere* in the world, *anytime* you have an Internet connection



Utility Helicopter Virtual Design and Sustainment Environment (VDASE)

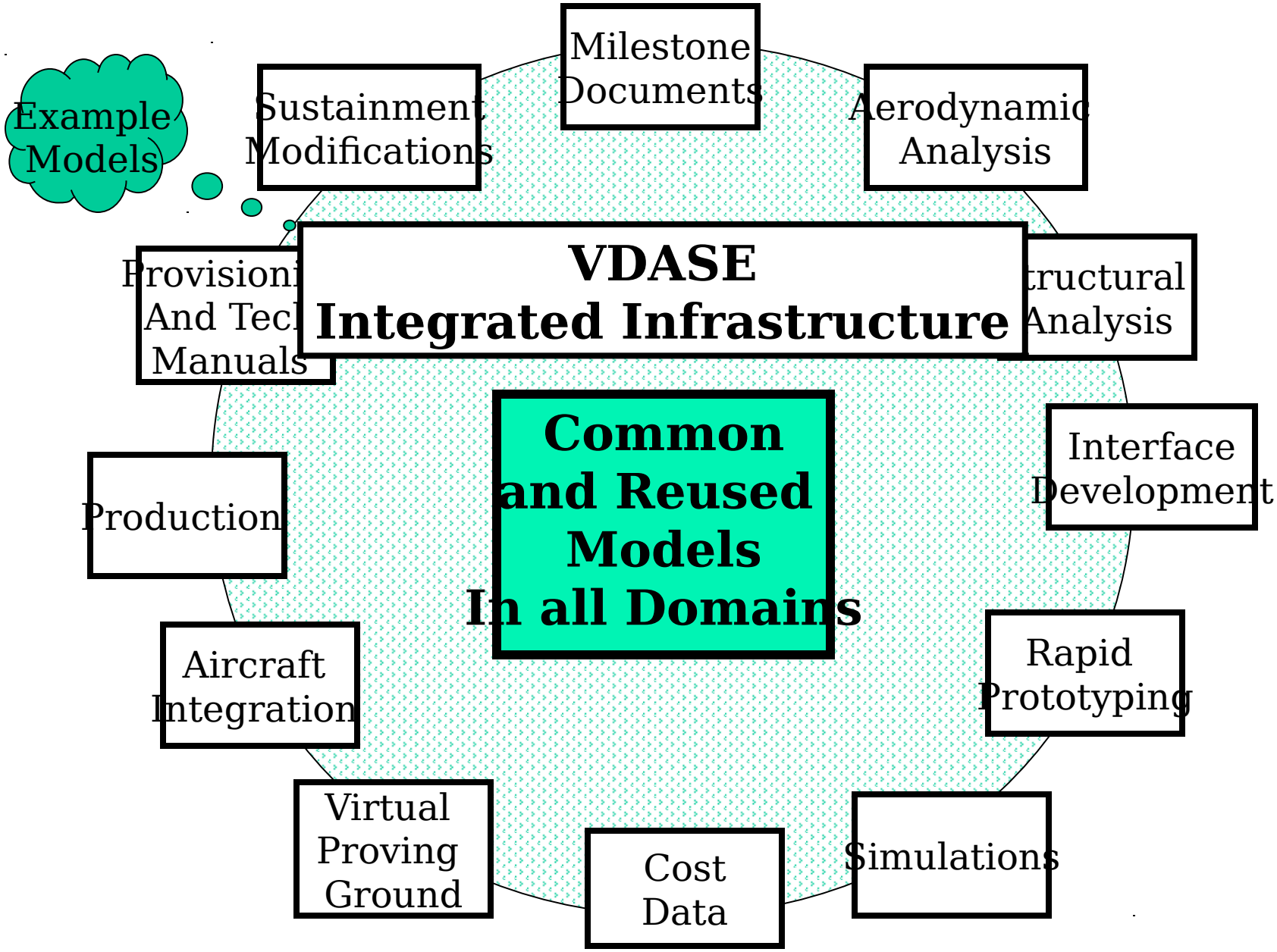
OBJECTIVE:
Create a standard virtual design and sustainment information environment (infrastructure) allowing rapid development, analysis, evaluation, integration and sustainment of H-60 hardware and software design changes prior to fabrication or coding and subsequently throughout the life cycle.

APPROACH:
- Integrate and/or develop common and compatible modeling and information infrastructure and provide interfaces and translations between models and databases as appropriate
- Maintain all appropriate models and simulations

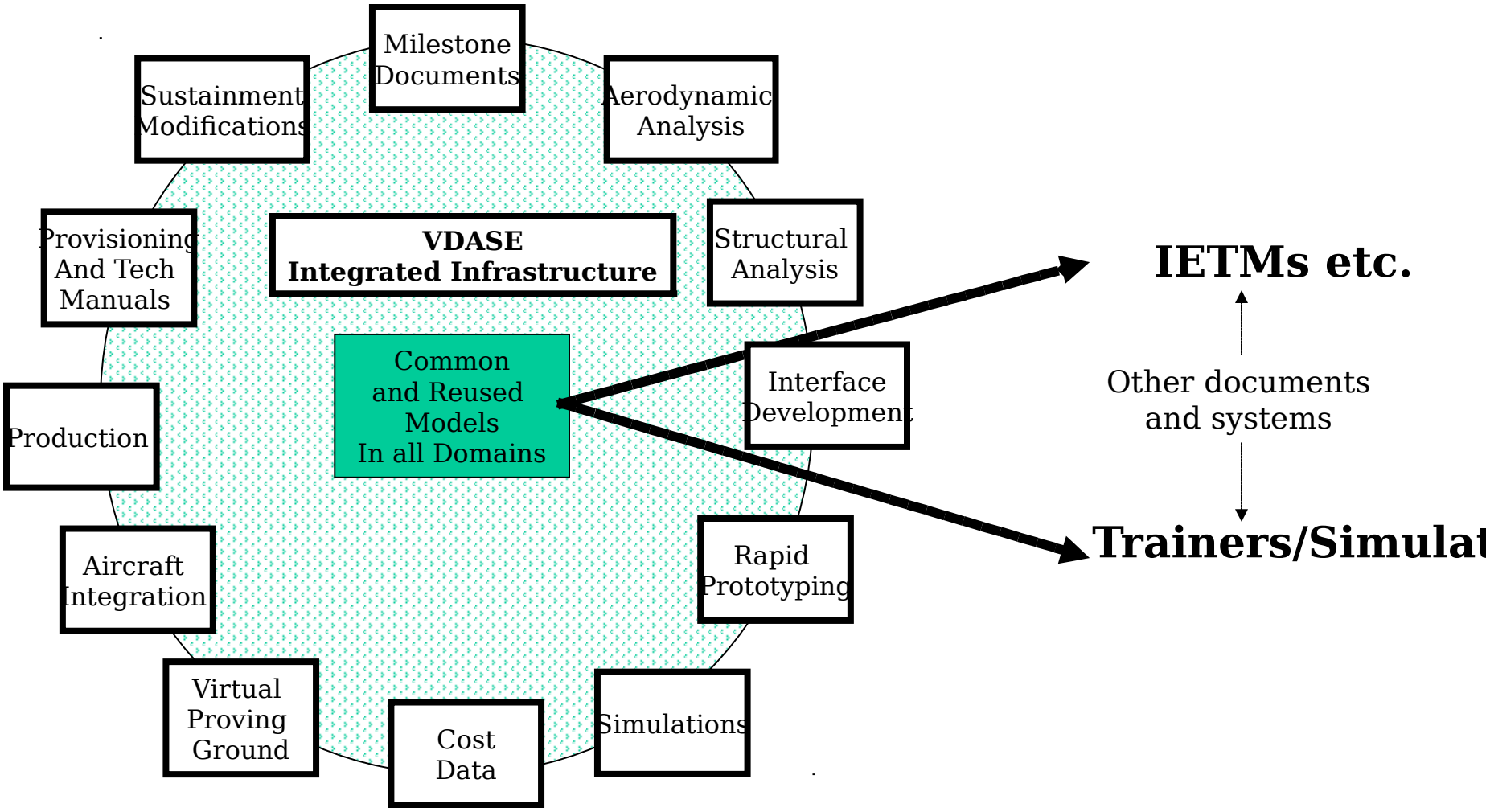
VDASE
Advantages

- **Reduced development cost**
- **Reduced cycle time on design changes**
- **Lower development cost through model reuse**
- **Low cost information exchange and model reuse with other customers**

Virtual Development And Sustainment Environment (VDASE)



Reusable Models Concept



VDASE
Model and Information Integration Concept

<u>CHALLENGE</u>: How to rapidly analyze proposed design and program modifications with/among IPT members and assess impacts

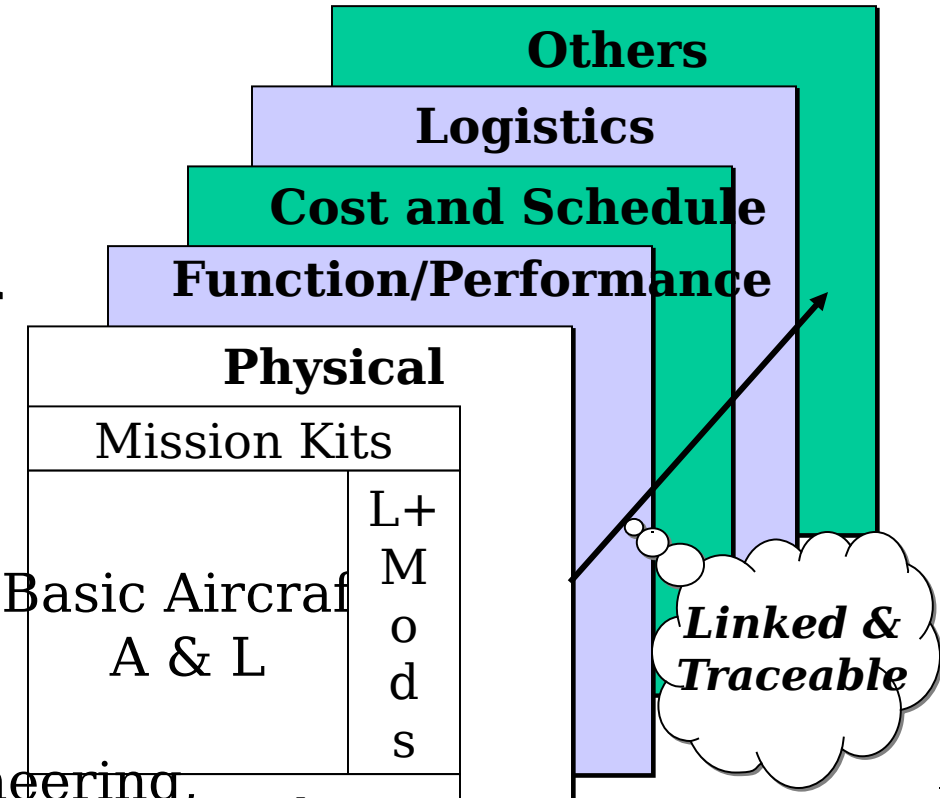
- Requirements - Design - Cost
- Schedule - Logistics - Other

<u>SOLUTION</u>:

Common sets of models <u>used by all IPT members</u>

- Central Repository
- Internet connections
- Configuration Controlled
- Integrated with Systems Engineering, Business and Logistics systems
- Commercial standards/formats
- Translatable to production and provisioning requirements

Example Mode



- Structural
- Electrical
- Aeromechanics

- Signature
- Electrical
- Other

System Desktop Notebook GUI

Technical Information

Logistics Information

Business Information

System Desktop Notebook

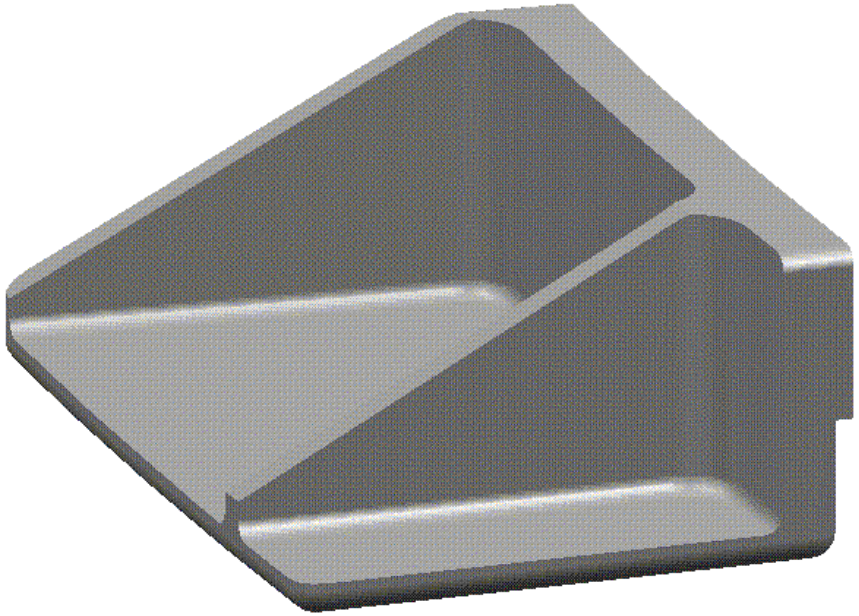
Technical Information

Drawing

Test Report

Simulation

Design Rationale



Installation Instructions

Reliability Data

Inventory Levels

Contract

Price History

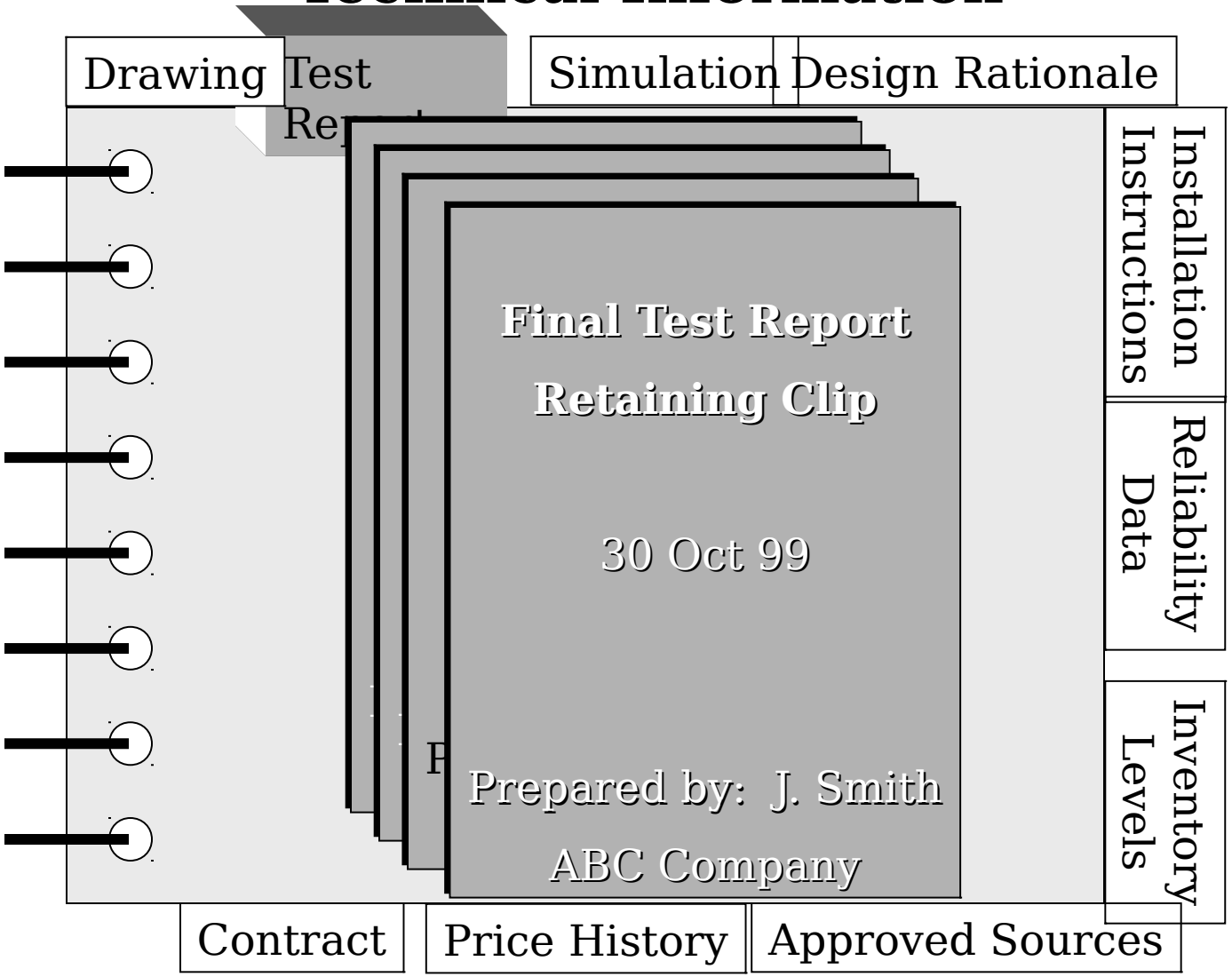
Approved Sources

Business Information

Logistics Information

System Desktop Notebook

Technical Information



Logistics Information

Business Information

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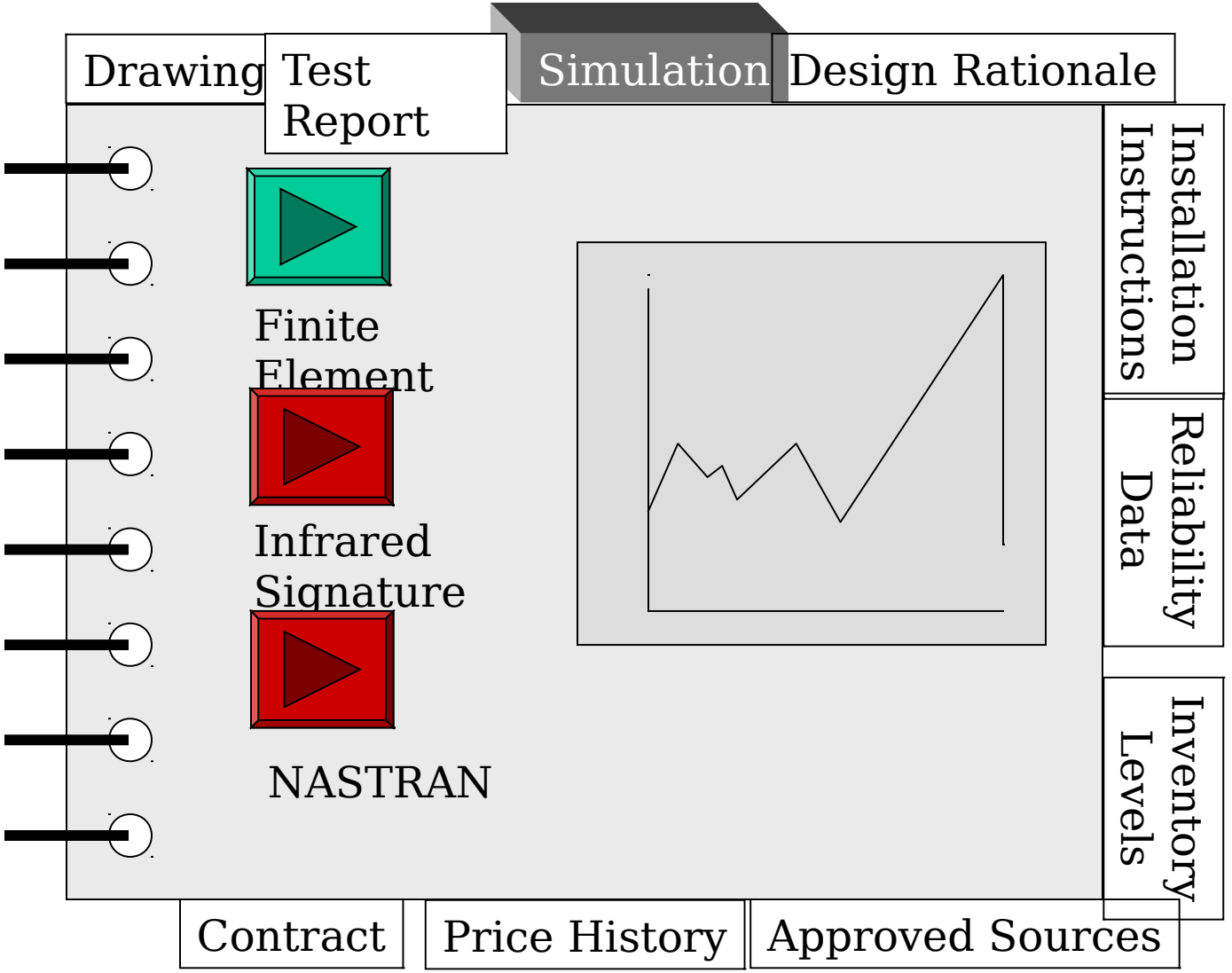
Technical Information



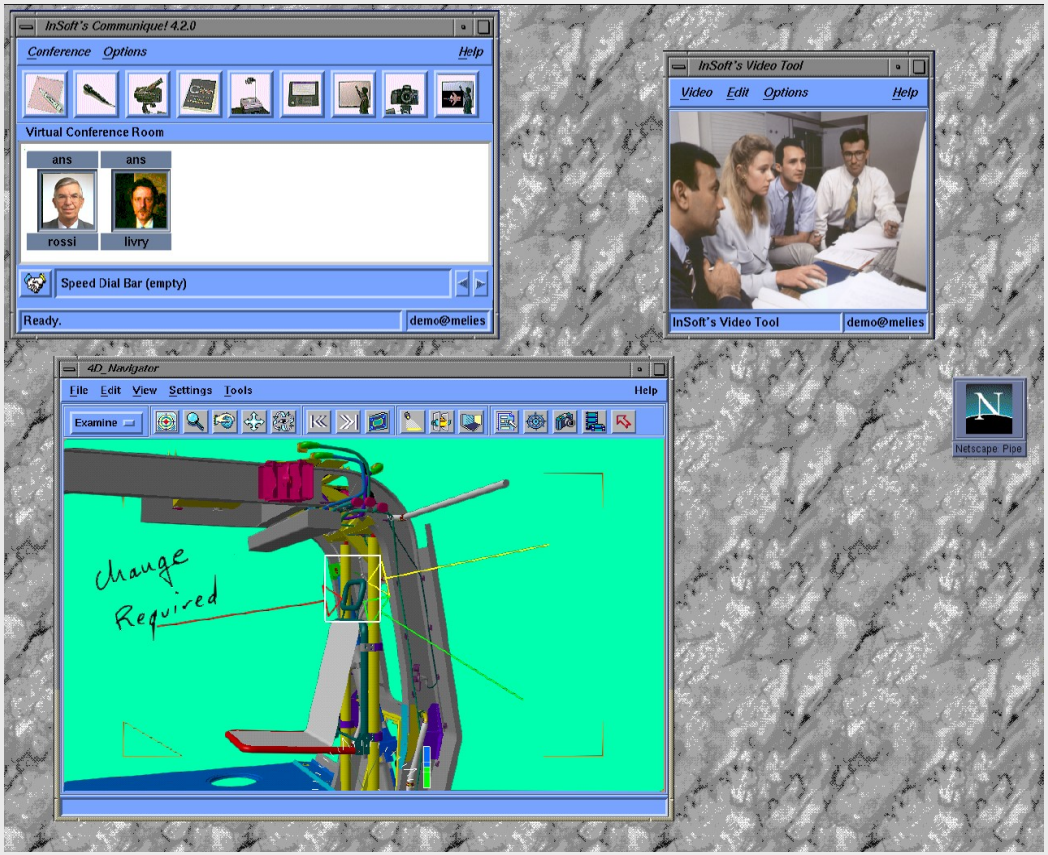
Logistics Information

Business Information

System Desktop Notebook

Technical Information

Drawing | Test | Simulation | Design Rationale



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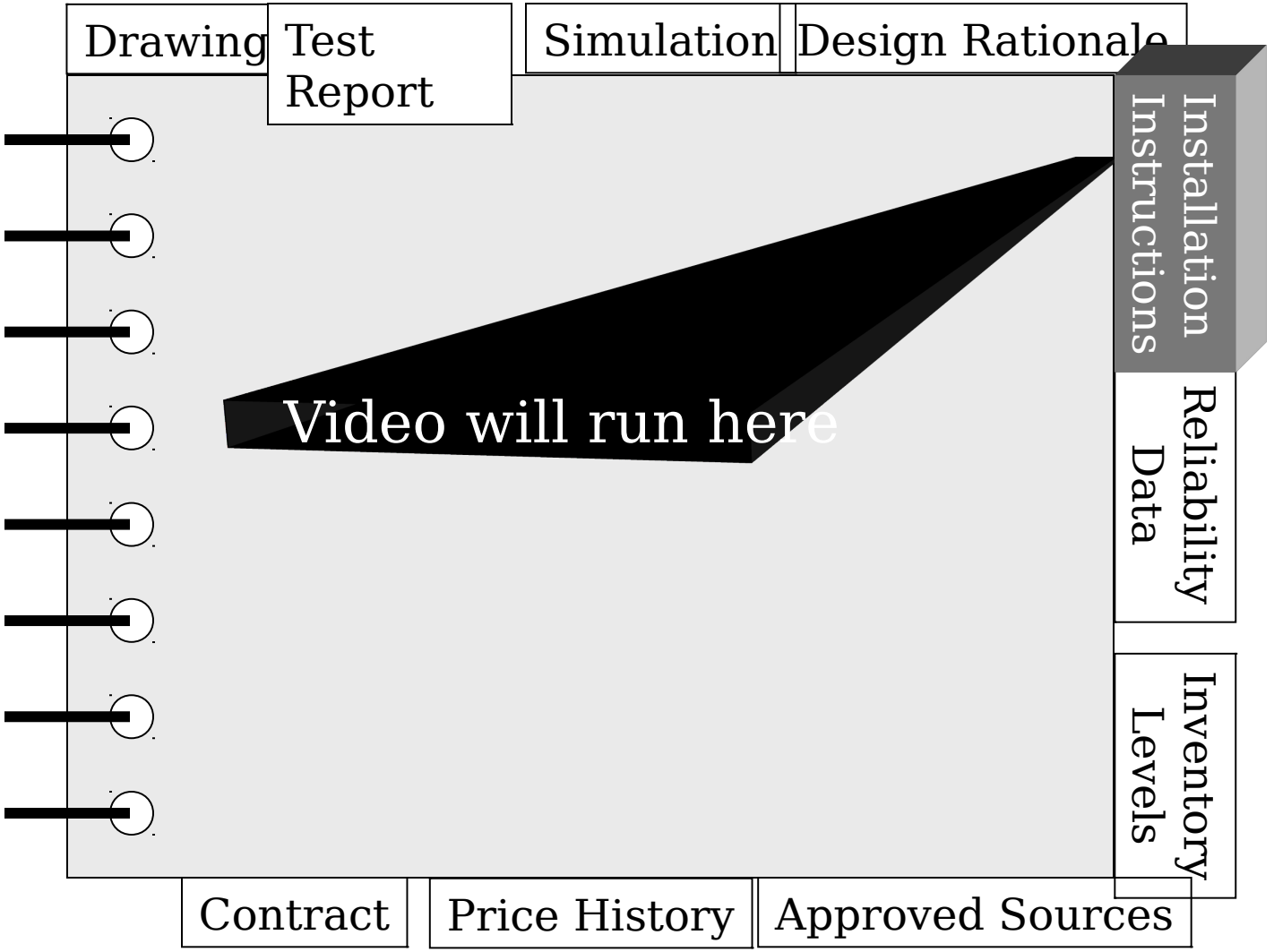


Logistics Information

Business Information

Examples of Linkages

Others

Contractor

Engineering

Program Office

Internet Connections via **KAMNet** =
World Wide Accessibility

Example Mod

Others

Logistics

Cost and Schedule

Function/Performance

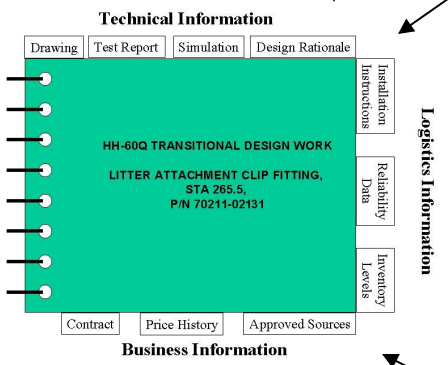
Physical

Mission Kits

Basic Aircraf
A & L

L+
M
o
d
s

X Mods



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KAMNet

Realtime
Demonstration

Virtual Design and Sustainment Environment Challenges

- Non-recurring cost for legacy data conversions and infrastructure
- Requirements definition - paradigm shifts required
- Business Process re-engineering
- Agreement on Common data description betwee databases
- Rice Bowl politics - “Knowledge is Power”
- Definition of data ownership and proprietary

Action

- **Continuing Requirements Definition**
- **Proceeding with implementation of KAMNet**
- **Pursuing funding for data conversion and non recurring costs**
- **Working data descriptors**
- **PMO developing processes and prototyping IDE system**
- **Evaluating Rice Bowl and data ownership issues**

Limited funding leads to fielding as resources permit